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ABSTRACT

About 3,000 students in grades 3, 7, and 11 were assessed for fitness, motor ability, knowledge and understanding of physical activity, and participation and attitudes toward physical acitivity. Over 2,200 physical education teachers and 1,300 administrators completed questionnaires on instructional practices and program assessment. Results indicated that many students were overweight. Motor ability and fitness of secondary females and of all elementary students generally received weak ratings from the interpretation panel. Knowledge and understanding results were rated as weak or marginally satisfactory for 97% of the grade 3 items, 49% of the grade 7 items, and 47% of the grade 11 items. All students felt physical education was as important and more enjoyable than other subjects. Involvement in extracurricular programs was extensive, especially at the intermediate and secondary levels. Teachers cited need for inservice training, released time, facilities, equipment, and supplies. Most elementary teachers had little academic training in physical education and cited a need for specialist teachers. Most programs emphasized team games, not dance, gymnastics or aquatics. Students were evaluated subjectively. Results of the assessment yielded 25 recommendations: among these were a need for body fat reduction, upgrading teacher qualifications, and daily physical education. (CP)

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BRITISH COLUMBIA ASSESSMENT OF PHYSICAL EDUCATION 1979

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A REPORT TO
THE MINISTRY OF EDUCATION
PROVINCE OF BRITISH COLUMBIA

British Columbia

Physical Education Assessment

SUMMARY REPORT

Submitted to the

Learning Assessment Branch
Ministry of Education
Province of British Columbia

By

The Physical Education Contract Team

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December 1979

JUN 2 0 1980

ACKNOWLEDGEMENTS

The Physical Education Contract Team wishes to thank all of the people whose involvement and assistance made this assessment possible. Without the full co-operation of teachers, students and administrators throughout the province an assessment of this magnitude would never have been accomplished.

We wish particularly to thank the students, teachers, parents, and administrators who completed the tests and questionnaires. We are also grateful to the Review Panels, the Interpretation Panels, and the students and faculty of the pilot schools for their critical reviews and constructive assistance. We are indebted to B.C. Research and the expert assistance of Mary Cooper and Glen Forrester. The effort of Gail Wilson in assisting with the development of the cognitive tests is gratefully acknowledged.

Special recognition is extended to Nancy Greer, John McVicar, Les Dickason and the staff of the Learning Assessment Branch and the members of the Advisory Committee for their valuable help and encouragement. The assistance of Louise Sourisseau, Anne Stevens, Sheri Shepard, Cheryl Humphries, and Bob Corbett in selected aspects of the assessment was greatly appreciated. We are especially indebted to the members of the assessment teams, in particular the team leaders.

PREFACE

This report summarizes the procedures, major findings and recommendations of the 1979 British Columbia Physical Education Assessment. A complete presentation and discussion of the assessment and its findings may be found in the General Report. In addition, assessment instrumentation, procedures and normative results are published as an instructional resource entitled "Assessing Physical Education: Resource Materials for Teachers". These reports and materials are available upon request from the Learning Assessment Branch, Ministry of Education.

The Contract Team acknowledges the obvious limitations of a single assessment of a school subject as diverse as Physical Education. It is our intent and sincere desire that this assessment be interpreted as a starting point in providing information on present status and in suggesting future directions for physical education in the public school system.

F. Alex Carre
for the Contract Team

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PHYSICAL EDUCATION ASSESSMENT HIGHLIGHTS

The B.C. Physical Education Assessment is part of the regularly scheduled province-wide assessments of major curricular areas. The fundamental principle underlying these assessments is that decisions affecting education are made best if based on accurate and current information about what and how students are presently learning. This information can then provide the basis for sound educational decision-making in curriculum development, resource allocation, teacher education, and educational research.

The B.C. Physical Education Assessment was conducted in the spring of 1979 after a year of planning, development and revision. A provincially representative sample of approximately 3000 public school students in grades 3, 7 and 11 was assessed for achievement in Physical Education. At the same time, approximately 2300 teachers of Physical Education at grades 1 through 11, 1300 administrators and 1600 parents completed questionnaires dealing with aspects of instructional practices and program considerations involved in teaching Physical Education in British Columbia.

The student assessment instruments were designed to determine current status in the following areas: attitudes toward Physical Education and physical activity (Affective Domain); knowledge about Physical Education (Cognitive Domain), and physical fitness and motor ability (Psychomotor Domain). The provincial results for these primary, intermediate and secondary students were interpreted by four representative panels in June 1979. These panels were convened by the Learning Assessment Branch and consisted of educators, school trustees, and other members of the general public.

The General Report provides a complete description of the assessment and all results, conclusions and recommendations. This document provides a summary of each of the major sections of the General Report.

Among the major findings of the assessment are the following:

STUDENT ASSESSMENT

* Students at the three levels assessed consider Physical Education to be equal in importance with and more enjoyable than other school subjects.

* Although the assessment revealed many instances of excellence at the three levels, particularly related to other Canadian, American and British samples, the motor ability and fitness results of the secondary females and of all elementary students generally received "*Weak*" ratings from the Interpretation Panels.

* There is a disturbingly high incidence of overweight students, both male and female, at the three levels assessed.

* Grade 3 performance on the questions used to assess knowledge and understanding in Physical Education was judged to be less than "*Satisfactory*" in all areas.

* Grade 7 students' performance on the knowledge and understanding concepts was judged to be "*Marginally Satisfactory*" in all areas except for physiological concepts which was rated "*Satisfactory*".

* Grade 11 students' performance on the written tests was judged to be "*Marginally Satisfactory*" or better in all areas except on questions concerning physical fitness, nutrition and physical activity which were rated "*Weak*".

INSTRUCTIONAL PRACTICES

* The majority of elementary teachers who are now teaching Physical Education have little or no academic training in this subject area.

* Teachers at the elementary level feel that "having Physical Education taught by a specialist teacher" is one of the most important ways to improve the Physical Education instructional program.

* "Inservice sessions" and "release time for inservice" are considered by teachers to be among the most important conditions to improve the Physical Education instructional program.

* Nine of every ten teachers surveyed indicate that they are satisfied with their teaching assignment or wish to teach more Physical Education. However, the majority of secondary teachers are planning to leave Physical Education teaching within five years.

PROGRAM ASSESSMENT

* Approximately 50 percent of the elementary students and 16 percent of the secondary students presently take Physical Education only two or less periods per week.

* The majority of teachers at all levels showed a preference for daily Physical Education with almost half the students and a third of the parents expressing a similar preference.

* Facilities, equipment, and supplies were generally considered by teachers to be inadequate to meet class objectives and to provide a comprehensive Physical Education program.

* Present Physical Education programs emphasize team games and de-emphasize such basic activity areas as dance, gymnastics and aquatics.

* While the Attitude and Physical Fitness Goals were consistently ranked most important by students, parents and teachers, all four Goals developed for this assessment were given high ratings. This indicates a need for programs which emphasize a balance of the four Goal areas (Attitude, Physical Fitness, Motor Ability, Knowledge and Understanding).

* Evaluation in physical education is primarily subjective in nature, with the greatest grading emphasis being on student effort in class.

* Students and teachers of Physical Education are extensively involved in the extra-curricular programs of the school particularly at the intermediate and secondary levels. Student participation was highest at the intermediate level and teacher involvement in the total extra-curricular program highest at the secondary level.

The General Report includes twenty-five recommendations and supporting statements.

The recommendations are included in Chapter 4 of this Summary Report.

The five MAJOR RECOMMENDATIONS from the Contract Team are:

I *That the Ministry of Education, local School Boards, administrators, and teachers of Physical Education ensure that Physical Education programs provide an increased emphasis on student learning outcomes in the areas of physical fitness, motor ability, and knowledge and understanding of Physical Education. Particular emphasis should be placed on body fat reduction, cardio-vascular endurance, development of fundamental motor skills, and knowledge basic to Physical Education.*

II *That the Ministry of Education and Physical Education teacher preparation institutions assess existing teacher qualifications and teacher training programs with a view to developing appropriate standards to meet the requirements of the expanded body of knowledge in Physical Education, the safety consideration, and the diversified role of the teacher of Physical Education.*

III *That the Ministry of Education and local School Boards provide the resources (personnel, in-service programs, facilities, equipment and supplies) necessary to ensure that Physical Education programs are broadened to meet the specifications of the Provincial Curriculum Guides.*

IV *That the Ministry of Education strongly endorse the concept of daily Physical Education with a view to improving student fitness, motor ability, and knowledge and understanding of Physical Education. Further that the Ministry of Education strike a committee to make recommendations regarding the implementation of daily Physical Education.*

V *That the Ministry of Education appoint a Provincial Co-ordinator of Physical Education to facilitate the broadening of the Physical Education curriculum, the upgrading of teacher qualifications, and the implementation of daily Physical Education.*

Chapter One

OVERVIEW OF THE ASSESSMENT

The 1979 B.C. Physical Education Assessment was carried out under terms of reference specified by the Learning Assessment Branch of the Ministry of Education. The questions to be addressed included the following:

1. What is the current status of students and program in Physical Education* at the end of primary, intermediate, and secondary school levels? Specifically:

   (a) What is the existing status of students completing primary, intermediate, and senior secondary school Physical Education programs with respect to the cognitive, affective, and psychomotor domains?

   (b) What is the status of the Physical Education program in terms of its facilities and equipment, and the experience and methodologies of its teaching?

   (c) What are the future needs of the program in terms of in-service training and provincial curriculum materials?

2. What techniques and devices for assessing student cognitive, affective, and psychomotor abilities can be developed and/or identified for teacher and classroom use?

The B.C. Physical Education Assessment, like other provincial assessments completed to date, was not concerned with evaluating specific courses. It was designed to provide information on a broad range of student abilities, instructional practices and program considerations involved in the teaching of physical education.

To adequately answer the questions posed for this assessment, three major components were included:

The development of goals and learning outcomes which could serve as a blueprint for an assessment of physical education.

The development and administration of student assessment instruments in the affective, cognitive and psychomotor domains.

The development and administration of questionnaires for students, parents, teachers and administrators related to instructional practices and program considerations in the teaching of Physical Education.

*For purposes of this assessment, the term 'Physical Education' was defined as the class instructional program including that part considered as active health.

The assessment instruments were developed, administered and the results analyzed by a Contract Team retained by the Learning Assessment Branch. This team included three members of the School of Physical Education and Recreation, the University of British Columbia, a primary consultant employed as a Faculty Associate at Simon Fraser University, an intermediate teacher from the Vancouver School District and a secondary teacher from the Burnaby School District. A graduate student in Physical Education at the University of British Columbia was employed to supervise and co-ordinate the on-site assessment while another faculty member from the School of Physical Education and Recreation, the University of British Columbia assisted with writing of the final reports. The Contract Team was ultimately responsible for the development and administration of the assessment instruments, the analyses of results and the preparation of both General and Summary Reports.

The Ministry convened an Advisory Committee consisting of the chairman of the Contract Team, teacher educators, a trustee, a physical education co-ordinator, a recreation specialist, a school administrator, teachers at the elementary and secondary levels, and representatives of the Learning Assessment Branch, one of whom chaired the committee. This group met regularly throughout all phases of the assessment to review progress and to provide reactions and suggestions to the Contract Team.

Design and selection of samples, distribution and collection of all written assessment instruments, scoring and data analyses were carried out by B.C. Research under the direction of the Contract Team and the Learning Assessment Branch.

This assessment also relied extensively upon the contributions of many other educators and concerned members of the public throughout the province. In particular, Review Panels met in the fall of 1978 to discuss the goals and learning outcomes for the assessment and to react to the proposed assessment procedures. In the spring of 1979, following data collection, Interpretation Panels were convened by the Ministry from across the province to make judgements on the acceptability of the results. The individual members of these panels are listed in the appendix.

Just over 3000 students who were participating fully in regular physical education programs in either grade 3 (end of primary program), grade 7 (end of intermediate program) or grade 11 (end of secondary program) in April 1979 participated in this provincial assessment. Approximately equal numbers of female and male students were sampled from within 107 schools selected from across the province to be representative of different geographic regions and school sizes. Each school was visited by a trained team of testers. Students completed three hours of assessment procedures that included paper and pencil knowledge tests, attitude inventories, questionnaires dealing with

their participation in various aspects of their Physical Education program and performance measures of physical fitness and motor abilities. The parent or guardian of each student was asked to complete a questionnaire concerning their opinions on a number of aspects related to Physical Education programs.

In addition, over 2200 teachers of physical education at the primary (grades 1-3), intermediate (grades 4-7), and secondary (grades 8-11) levels, and over 1300 school administrators from all schools in the province completed questionnaires which provided information on the instructional practices and program considerations involved in the teaching of physical education.

Chapter Two

GOALS, LEARNING OUTCOMES AND STUDENT INSTRUMENTATION

One of the major components of the Physical Education Assessment was the need to develop a series of Goals and Learning Outcomes which would indicate directions for Physical Education in British Columbia and provide the framework on which to base the assessment. Under the terms of reference provided by the Learning Assessment Branch the development of these Goals and Learning Outcomes became the first major task of the Contract Team. Program Goals are considered to be a series of general statements outlining the intent of the program while Learning Outcomes are a series of more specific statements, possibly sequential, arising from one or more program goals. The actual process of development and revision is described in detail in the General Report.

The Contract Team in consultation with the Advisory Committee undertook an extensive appraisal process which involved a comprehensive literature search and advice from various organizations and interested individuals. On the basis of this appraisal and from input received from the Review Panels, four major Program Goals for the primary, intermediate and secondary levels were developed. Student Learning Outcomes were then specifically formulated for the appropriate educational level. Figure 2.1 outlines the Goals and Learning Outcomes as they were developed for the primary (end of grade 3), intermediate (end of grade 7), and secondary (end of grade 11) levels. The Learning Outcomes assessed are marked with an asterisk * on the four pages which follow.

FIGURE 2.1 GOALS AND LEARNING OUTCOMES FOR PHYSICAL EDUCATION

GOALS

I. THE PHYSICAL EDUCATION PROGRAM SHOULD ASSIST STUDENTS IN DEVELOPING AND MAINTAINING PHYSICAL FITNESS.

II. THE PHYSICAL EDUCATION PROGRAM SHOULD ASSIST STUDENTS IN DEVELOPING EFFICIENT AND EFFECTIVE MOTOR SKILLS AND ENABLE THEM TO APPLY THESE SKILLS TO A VARIETY OF PHYSICAL ACTIVITIES.

III. THE PHYSICAL EDUCATION PROGRAM SHOULD ASSIST STUDENTS IN DEVELOPING KNOWLEDGE AND UNDERSTANDING OF FACTORS INVOLVED IN ATTAINING COMPETENCE IN AND APPRECIATION OF PHYSICAL ACTIVITY.

IV. THE PHYSICAL EDUCATION PROGRAM SHOULD ASSIST STUDENTS IN DEVELOPING AND MAINTAINING POSITIVE PERSONAL ATTRIBUTES AND INTERPERSONAL RELATIONSHIPS AND A POSITIVE ATTITUDE TOWARD PARTICIPATION IN PHYSICAL ACTIVITY.

GOAL I

THE PHYSICAL EDUCATION PROGRAM SHOULD ASSIST STUDENTS IN DEVELOPING AND MAINTAINING PHYSICAL FITNESS.

PRIMARY - Learning Outcomes

By the end of the primary level physical education program, students should be able to demonstrate:

* 1. an appropriately high level of physical development in the specific fitness components of cardio-vascular endurance, muscular endurance, strength, and flexibility.

* 2. an appropriate level of physical development in the specific anthropometric components of weight and body composition.

INTERMEDIATE - Learning Outcomes

By the end of the intermediate level physical education program, students should be able to demonstrate:

* 1. an appropriately high level of physical development in the specific fitness components of cardio-vascular endurance, muscular endurance, strength and flexibility.

* 2. an appropriate level of physical development in the specific anthropometric components of weight and body composition.

3. the ability to assess personal physical fitness, utilizing appropriate measurement techniques and instruments, in fitness components such as cardio-vascular endurance, muscular endurance, strength, flexibility, and anthropometric measures such as height, weight and girth.

SECONDARY - Learning Outcomes

By the end of the secondary level physical education program, students should be able to demonstrate:

* 1. an appropriately high level of physical development in the specific fitness components of cardio-vascular endurance, muscular endurance, strength, and flexibility.

* 2. an appropriate level of physical development in the specific anthropometric components of weight and body composition.

3. the ability to assess and interpret personal physical fitness, utilizing appropriate measurement techniques and instruments, in fitness components such as cardio-vascular endurance, muscular endurance, strength, flexibility and anthropometric measures such as height, weight, girth and percent body fat.

GOAL II

THE PHYSICAL EDUCATION PROGRAM SHOULD ASSIST STUDENTS IN DEVELOPING EFFICIENT AND EFFECTIVE MOTOR SKILLS AND ENABLE THEM TO APPLY THESE SKILLS TO A VARIETY OF PHYSICAL ACTIVITIES.

PRIMARY - Learning Outcomes

By the end of the primary level physical education program, students should be able to demonstrate:

* 1. a basic level of proficiency in locomotor skills such as walking, running, jumping, galloping, and skipping.

2. a basic level of proficiency in non-locomotor skills such as pushing, pulling, bending, stretching, and twisting.

* 3. a basic level of proficiency in manipulative skills (projection and reception) such as throwing, catching, kicking, and striking.

* 4. a basic level of proficiency in motor abilities such as balance, hand-eye co-ordination, and agility.

5. a basic level of proficiency in the use of space such as being able to travel in different directions using forward, backward and sideward movements.

6. a solution to a movement problem such as travelling from end to end on a bench using one part of the body on the bench and another on the floor.

7. a basic level of proficiency in a variety of activities selected from individual, dual, and group activities in games, gymnastics, dance, aquatics, and outdoor pursuits.

INTERMEDIATE - Learning Outcomes

By the end of the intermediate level physical education program, students should be able to demonstrate:

* 1. an advanced level of proficiency in locomotor skills such as walking, running, jumping, galloping and skipping, and the use of these skills in physical activities.

2. an advanced level of proficiency in non-locomotor skills such as pushing, pulling, bending, stretching, and twisting, and the use of these skills in physical activities.

* 3. an intermediate level of proficiency in manipulative skills (projection and reception) such as throwing, catching, kicking, and striking, and the use of these skills in physical activities.

* 4. an intermediate level of proficiency in motor abilities such as balance, hand-eye co-ordination, and agility, and the use of these abilities in physical activities.

5. an intermediate level of proficiency in the use of space such as being able to travel in different directions using forward, backward and sideward movements.

6. a solution to a movement problem such as making up a movement sequence containing balances on different parts of the body.

7. an intermediate level of proficiency in a variety of activities selected from individual, dual and group activities in games, gymnastics, dance, aquatics, and outdoor pursuits.

SECONDARY - Learning Outcomes

By the end of the secondary level physical education program, students should be able to demonstrate:

1. an advanced level of proficiency in locomotor skills such as walking, running, jumping, galloping and skipping, and the use of these skills in physical activities.

2. an advanced level of proficiency in non-locomotor skills such as pushing, pulling, bending, stretching, and twisting, and the use of these skills in physical activities.

* 3. an advanced level of proficiency in manipulative skills (projection and reception) such as throwing, catching, kicking, and striking, and the use of these skills in physical activities.

* 4. an advanced level of proficiency in motor abilities such as balance, hand-eye co-ordination, and agility, and the use of these abilities in physical activities.

5. an advanced level of proficiency in the use of space such as being able to travel in different directions using forward, backward and sideward movements, and the use of this ability in physical activities.

6. a solution to a movement problem such as designing a floor exercise routine in gymnastics.

7. an advanced level of proficiency in a variety of activities selected from individual, dual, and group activities in games, gymnastics, dance, aquatics, and outdoor pursuits.

GOAL III

THE PHYSICAL EDUCATION PROGRAM SHOULD ASSIST STUDENTS IN DEVELOPING KNOWLEDGE AND UNDERSTANDING OF FACTORS INVOLVED IN ATTAINING COMPETENCE IN AND APPRECIATION OF PHYSICAL ACTIVITY

PRIMARY - Learning Outcomes

By the end of the primary level physical education program, students should be able to demonstrate:

* 1. an understanding of basic rules, techniques and strategies involved in physical activities.
* 2. an understanding of basic movement principles, including basic concepts related to body mechanics and safety, such as the integration of time, weight and space when travelling in different directions at varying speeds.
* 3. an understanding of basic concepts and methods necessary to achieve an appropriate high level of physical fitness such as the effects of continuous activity and the importance of nutrition as it relates to physical activity.
- 4. an understanding of basic psychological concepts related to physical activity such as a sense of fair play.
* 5. an understanding of basic physiological concepts related to physical activity such as the value of good posture and the effects of exercise on heart rate.

INTERMEDIATE - Learning Outcomes

By the end of the intermediate level physical education program, students should be able to demonstrate:

* 1. an understanding of an intermediate level of rules, techniques, and strategies involved in physical activities.
* 2. an understanding of basic movement principles, including intermediate concepts related to body mechanics and safety, such as the integration of time, weight and space required when using the arms to develop increased momentum in jumping for distance.
* 3. an understanding of intermediate level concepts and methods necessary to achieve an appropriate high level of physical fitness such as the effects of circuit training and the importance of nutrition as it relates to physical activity.
* 4. an understanding of intermediate level psychological concepts, related to physical activity such as the development of co-operative behaviour.
* 5. an understanding of intermediate level physiological concepts, including structure and function of body systems, related to physical activity such as the value of good posture and the effects of regular exercise on resting and recovery heart rates.

SECONDARY - Learning Outcomes

By the end of the secondary level physical education program, students should be able to demonstrate:

* 1. an understanding of advanced rules, techniques, and strategies involved in physical activities.
* 2. an understanding of basic movement principles, including advanced concepts related to body mechanics and safety, such as the integration of time, weight and space in developing a successful spike in volleyball.
* 3. an understanding of advanced concepts and methods necessary to achieve an appropriately high level of physical fitness such as the specificity of aerobic and anaerobic training and the importance of nutrition as it relates to physical activity.
* 4. an understanding of advanced psychological concepts such as the relationship between physical activity and physical and mental stress.
* 5. an understanding of advanced physiological concepts related to physical activity such as the value of good posture and the effects of regular exercise on cardio-vascular function.
* 6. an understanding of basic concepts related to the structure and function of the following body systems: circulatory, digestive, endocrine, excretory, muscular, nervous, respiratory and skeletal, together with an understanding of how these systems interrelate and how they are affected by physical activity.

GOAL IV

THE PHYSICAL EDUCATION PROGRAM SHOULD ASSIST STUDENTS IN DEVELOPING AND MAINTAINING POSITIVE PERSONAL ATTRIBUTES AND INTER-PERSONAL RELATIONSHIPS AND A POSITIVE ATTITUDE TOWARDS PARTICIPATION IN PHYSICAL ACTIVITY.

PRIMARY - Learning Outcomes

By the end of the primary physical education program students should be able to demonstrate:

1. a recognition of the value of achieving personal competence in physical activities.
2. a recognition of the unique physical ability of self and others.
3. responsibility for one's own behaviour.
4. a recognition of the value inherent in the development and lifetime maintenance of an appropriately high level of physical fitness.
* 5. a recognition of physical activity as an aesthetic experience such as developing an appreciation of form and style.
* 6. a recognition of physical activity as a social experience such as recognizing the relationship of one's own behaviour to the behaviour of others.
* 7. a recognition of the value of physical activity for health and fitness.

INTERMEDIATE - Learning Outcomes

By the end of the intermediate physical education program students should be able to demonstrate:

1. an appreciation of the value of achieving personal competence in physical activities.
2. an appreciation of the unique physical ability of self and others.
3. responsibility for one's own behaviour.
4. an appreciation of the value inherent in the development and lifetime maintenance of an appropriately high level of physical fitness.
* 5. an appreciation of physical activity as an aesthetic experience such as developing an appreciation of form and style in a variety of physical activities.
* 6. an appreciation of physical activity as a social experience such as developing an appreciation for leadership.
* 7. an appreciation of the value of physical activity for health and fitness.

SECONDARY - Learning Outcomes

By the end of the secondary physical education program students should be able to demonstrate:

1. a positive attitude toward the achievement of personal competence in physical activities.
2. a positive attitude toward the unique physical ability of self and others.
3. responsibility for one's own behaviour.
4. a positive attitude toward the development and lifetime maintenance of an appropriately high level of physical fitness.
* 5. a positive attitude toward physical activity as an aesthetic experience such as an appreciation of form and style as it applies to their personal movement patterns.
* 6. a positive attitude towards physical activity as a social experience such as appreciating the role of leadership through experience.
* 7. a positive attitude toward the value of physical activity for health and fitness.

STUDENT INSTRUMENTATION

The four Goals and specific Learning Outcomes described previously form the framework for the student assessment area of the Physical Education Assessment. Table 2.1 shows the student instrumentation used for each Goal and Learning Outcome.

TABLE 2.1

STUDENT INSTRUMENTATION BY GOAL, LEARNING OUTCOME AND GRADE LEVEL

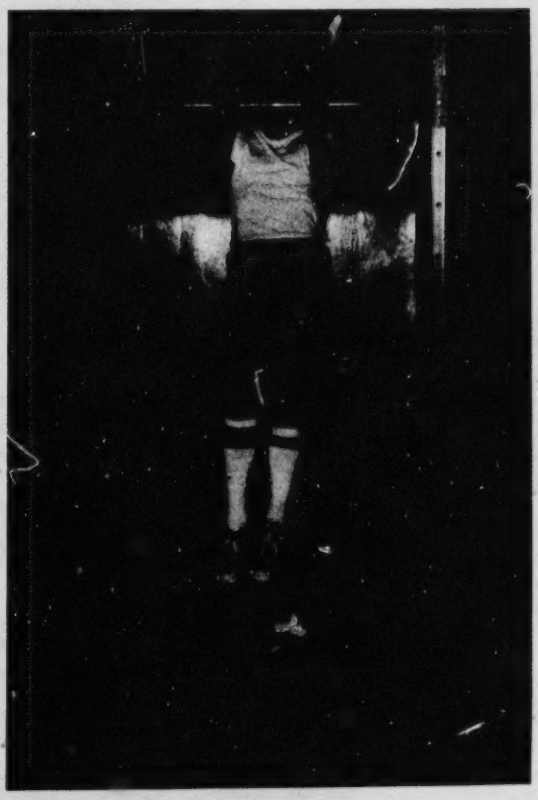
GOAL	LEARNING OUTCOMES	GRADE 3	GRADE 7	GRADE 11
I	1. Fitness components:			
	- cardio-vascular endurance	9 min. run	12 min. run	12 min. run
	- static muscular endurance	flexed arm hang	flexed arm hang	flexed arm hang
	- dynamic muscular endurance	speed sit-ups	speed sit-ups	speed sit-ups
	- static strength	grip strength	grip strength	grip strength
	- explosive strength	standing long jump	standing long jump	standing long jump
	- flexibility	sit and reach	sit and reach	sit and reach
	2. Anthropometric components			
	- height	✓	✓	✓
	- weight	✓	✓	✓
	- body composition	skin fold measures	skin fold measures	skin fold measures
II	1. Locomotor skills	50 ft. hop	50 ft. hop	----
	3. Manipulative skills	throw for form	throw for form	throw for form
	4. Motor abilities:			
	- hand-eye co-ordination	wall pass	wall pass	wall pass
	- agility	side slide	side slide	side slide
III	1. Rules, techniques, strategies	8 items	8 items	8 items
	2. Movement principles	8 items	8 items	6 items
	3. Physical fitness	8 items	8 items	9 items
	4. Psychological factors	---	7 items	8 items
	5. Physiological factors	8 items	8 items	8 items
	6. Body structure and function	---	---	8 items
IV	5. Aesthetic experience	1 item	1 item	1 item
	6. Social experience	2 items	2 items	2 items
	7. Health and fitness	2 items	2 items	2 items

Sample items for the Learning Outcomes assessed are presented in the remainder of this chapter.

GOAL I: THE PHYSICAL EDUCATION PROGRAM SHOULD ASSIST STUDENTS IN DEVELOPING AND MAINTAINING PHYSICAL FITNESS

Learning Outcome 1 Fitness Components:-

- cardio-vascular endurance
- static muscular endurance
- dynamic muscular endurance
- static strength
- explosive strength
- flexibility



The item to assess static muscular endurance in grades 3, 7 and 11 was:

FLEXED ARM HANG

Description:

The student hangs from a bar, hands shoulder width apart and eyes level with the bar, for as long as a period of time as possible.

GOAL I:

Learning Outcome 2 Anthropometric Components:-

- height
- weight
- body composition

The item used to assess body composition in grades 3, 7 and 11 was:

SKINFOLD MEASURES

Description:

Subcutaneous fat is measured at four different sites on the body (biceps, triceps, subscapular, suprailiac).

GOAL II: THE PHYSICAL EDUCATION PROGRAM SHOULD ASSIST STUDENTS IN DEVELOPING EFFICIENT AND EFFECTIVE MOTOR SKILLS AND ENABLE THEM TO APPLY THESE SKILLS TO A VARIETY OF PHYSICAL ACTIVITIES

Learning Outcome 1 Locomotor Skills:-

- walking
- running
- jumping, etc.

The item used to assess a locomotor skill in grades 3 and 7 was:

50 FOOT HOP (15.2m)

Description:

The student is timed hopping a distance of 50 feet on the preferred leg.

GOAL II:

Learning Outcome 3 Manipulative Skills:-

- throwing
- catching
- kicking
- striking

The item used to test a manipulative skill in grades 3, 7 and 11 was:

OVERHAND THROW FOR FORM

Description:

The student throws an unlimited number of balls at the wall and is rated on a scale of 1-5, with respect to three aspects of the throw: foot position, body rotation and arm action.

GOAL II:

Learning Outcome 4 Motor Ability:-

- balance
- hand-eye co-ordination
- agility

The item used to assess agility in grades 3, 7 and 11 was:

SIDE SLIDE

Description:

The student slides from side line to side line, as many times as possible in 10 seconds.

GOAL III: THE PHYSICAL EDUCATION PROGRAM SHOULD ASSIST STUDENTS IN DEVELOPING KNOWLEDGE AND UNDERSTANDING OF FACTORS INVOLVED IN ATTAINING COMPETENCE IN AND APPRECIATION OF PHYSICAL ACTIVITY

Learning Outcome 1: Rules, Techniques and Strategies (grades 3, 7 and 11)

An example of an item used to assess knowledge of the strategy component in grade 7 was:

When throwing a ball at a moving target, you should aim:	grade 7 p-values**
A. at the target	18
B. behind the target	1
* C. ahead of the target	70
D. above the target	8
E. I don't know	3

Learning Outcome 2: Movement Principles, Body Mechanics and Safety (grades 3, 7 and 11)

An example of an item used to assess knowledge of the Body Mechanics component in grade 3 was:

If you are trying to jump as far as you can, what should you do with your arms to help you jump farther?	grade 3 p-values
A. Leave them at your side as you jump	7
B. Put them out wide as you jump	12
* C. Move them forward as you jump	78
D. I don't know	4

In all sample items in this report:
*denotes the correct answer
**p-values give percent of students selecting each alternative

Learning Outcome 3: Physical Fitness, Nutrition and Activity (grades 3, 7 and 11)

An example of an item to assess knowledge of the Nutrition and Activity component in grade 11 was:

Why is protein essential for a physically active person?	grade 11 p-values
A. It speeds up digestive processes	3
B. It helps form simple sugars	18
C. It absorbs acids	3
* D. It builds body tissues	61
E. I don't know	15

Learning Outcome 4: Psychological Factors (grades 7 and 11)

An example of an item used to assess awareness of the Psychological Factors in grade 7 was:

If you want to help your team mates become better players, you should:	grade 7 p-values
A. keep reminding them of all their errors	18
* B. praise them and show them their errors	67
C. be strict with them	5
D. tell them how the experts do it	7
E. I don't know	4

Learning Outcome 5: Physiological Factors (grades 3, 7 and 11)

An example of an item used to assess knowledge of the Physiological Factors in grade 3 was:

Which of these activities is best for developing a strong heart?	grade 3 p-values
* A. Running	87
B. Stretching	7
C. Bending	3
D. I don't know	4

Learning Outcome 6: Body Structure and Function (grade 11 only)

An example of an item used to assess knowledge of the Body Structure and Function component was:

Movement is the end result of action by the body's:	grade 11 p-values
A. bones	2
B. nerves	6
C. muscles	24
* D. all of the above	63
E. I don't know	5

GOAL IV: THE PHYSICAL EDUCATION PROGRAM SHOULD ASSIST STUDENTS IN DEVELOPING AND MAINTAINING POSITIVE PERSONAL ATTRIBUTES AND INTERPERSONAL RELATIONSHIPS AND A POSITIVE ATTITUDE TOWARD PARTICIPATION IN PHYSICAL ACTIVITY

The Contract Team determined student attitudes toward participation in physical activity by administering an adaptation of the Simon and Smoll inventories.

The grade 3 students were presented with a set of statements, each linked to a set of five stylized faces ranging from sad (negative attitude) to happy (positive attitude).

The grade 7 and 11 students were presented with a set of similar statements each linked to a set of five-point semantic differential scales.

(e.g. good:____:____:____:____:bad)

Examples of the types of statements students were asked to respond to are presented below. (see the General Report for full details of these attitude inventories).

Learning Outcome 5: Aesthetic Experience (grades 3, 7 and 11)

A statement used to assess the attitude component of Aesthetic Experience at grade 3 was:

How do you feel about taking part in physical activities which have beautiful and graceful movement?

A statement used to assess the attitude component of Aesthetic Experience at 7 and 11 was:

> PHYSICAL ACTIVITY AS THE BEAUTY IN HUMAN MOVEMENT
>
> Taking part in physical activities which have beautiful and graceful movements.

Learning Outcome 6: Social Experience (grades 3, 7 and 11)

A statement used to assess the attitude component of Social Experience in grades 7 and 11 was

> PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE
>
> Taking part in physical activities which give you a chance to meet new people.

Learning Outcome 7: Health and Fitness (grades 3, 7 and 11)

A statement used to assess the attitude component of Health and Fitness in grade 7 and 11 was:

> PHYSICAL ACTIVITY FOR HEALTH AND FITNESS
>
> Taking part in physical activities to make you healthier.

Chapter Three
Summary of Results

A. STUDENT ASSESSMENT RESULTS

1. Interpretive Analyses: The province-wide results of the knowledge tests and the physical fitness and motor ability measures were presented to provincially representative panels of educators and informed members of the public for the purpose of judging the degree of strength or weakness these data indicated. Four separate panels, a preliminary panel and three interpretation panels, were required in the Physical Education Assessment to complete this analysis.

The preliminary panel was convened by the Learning Assessment Branch to be representative of individuals with experience and expertise in measurement, growth and development, curriculum content and instructional practices in Physical Education. The primary task of this panel was to establish standards or "cut-off" scores indicative of "minimally acceptable" performance. These were established for each psychomotor item whereby performance falling below the acceptable range would be considered an identified weakness, and conversely, performance above the acceptable range would be deemed a strength. The General Report provides a detailed listing of the standards established by this panel for each grade level and psychomotor variable assessed.

The preliminary panel made the decision to set the same ranges of performance for both sexes at grades 3 and 7. These "unisex" standards were accompanied by a caution that the ranges may favour the males in grade 7 on certain psychomotor items. A number of factors at the grade 11 level were judged to necessitate different ranges of acceptable performance for males and females.

Once these standards had been established, three fifteen-member panels, one for each grade level assessed, were brought together by the Learning Assessment Branch. Panels were composed of teachers, supervisors, teacher educators, trustees, and members of the public. These panels considered the province-wide results and rated performance on each psychomotor test on a five point scale: *Weak, Marginally Satisfactory, Satisfactory, Very Satisfactory, and Strong.* The percentages of students scoring above the mid-point of the acceptable range was considered the principal criteria in assigning these ratings. Other considerations

included: a) the entire distribution of the scores, including the percentages of students falling above or below the upper and lower limits of the range; and b) whether or not the acceptable range as set by the preliminary panel, was judged as being slightly high or low for the group evaluated.

In judging the results of the knowledge tests, the panels judged performance based upon the percent of students province-wide who had answered each question correctly. In making these judgements, panelists were asked to keep in mind the range of student abilities, the total population of students in B.C. at this age/grade level, and the difficulty of the question itself.

2. Summary of Results for Goal 1: Physical Fitness: The General Report includes a set of figures which present the distributions of student performance by sex and by grade level for each psychomotor variable assessed. For the purposes of this report, a summary of these results is presented in Table 3.1. This table presents the percent of males and females at each grade level who surpassed the mid-point of the acceptable range of performance for each psychomotor variable assessed and the rating given by the provincial interpretation panel to this performance.

TABLE 3.1

SUMMARY EVALUATIONS FOR THE PSYCHOMOTOR VARIABLES

	GRADE 3				GRADE 7				GRADE 11			
	Females		Males		Females		Males		Females		Males	
	%*	Panel Rating**	%*	Panel Rating**	%*	Panel Rating**	%*	Panel Rating**	%*	Panel Rating**	%*	Panel Rating**
A. Anthropometric												
Body Composition (% Body Fat)	12	W	15	W	12	W	8	W	12	W	17	W
B. Physical Fitness												
Cardio-vascular Endurance	6	W	25	W	5	W	37	W	2	W	41	S
Static Muscular Endurance	13	W	29	W	14	W	39	W	6	W	42	S
Dynamic Muscular Endurance	36	W	36	W	52	MS	57	MS	35	MS	43	S
Static Strength	24	W	49	MS	47	W	64	MS	65	S	58	S
Explosive Strength	61	MS	72	MS	29	W	53	MS	26	MS	51	S
Flexibility	37	W	15	W	39	W	12	W	61	S	39	MS
C. Motor Ability												
Agility	43	MS	47	MS	40	W	53	MS	53	S	53	S
Hand-eye Co-ordination	37	MS	60	S	23	W	56	S	54	S	58	S
Locomotor Skills												
50 Foot Hop	54	MS	54	MS	60	S	76	S	N/A		N/A	
Throw for Form												
feet	27	W	84	MS	19	W	65	MS	30	MS	74	S
body rotation	42	W	88	MS	46	MS	80	S	39	S	73	S
arm action	14	W	67	W	2	W	19	W	2	W	37	W

*% = percent of the students who scored above the mid-point of the acceptable range established by the preliminary panel

**Panel Ratings: W=Weak; MS=Marginally Satisfactory; S=Satisfactory; VS=Very Satisfactory; St=Strong

A word of caution is in order to ensure against misinterpretation of the data presented in Table 3.1. Standards of acceptable performance were set by the preliminary panel within each grade and in most cases these standards increase from grade 3 to grade 7 and from grade 7 to grade 11. Any interpretation of trends in performance across the grades based on the data presented in Table 3.1 must bear this in mind. For example, the data for Dynamic Muscle Endurance states that 36 percent of grade 3 females scored above the mid-point of the acceptable range, 52 percent of grade 7 girls did so, and 35 percent of grade 11 girls did so. What is not apparent is that the standards differ from grade to grade. For grade 3 girls the mid-point of the range of acceptable performance was 33 speed sit-ups in one minute, for grade 7 girls it was 40, and for grade 11 girls it was 42. Thus, the percent of students meeting and exceeding acceptable performance can only validly be interpreted within, not across grade levels for any one psychomotor measure. The reader is cautioned to avoid invalid use of these data for direct comparisons of performance across grades.

a) Anthropometric: Height, Weight and Percent Body Fat

For the variables of height and weight, sex differences are virtually non-existent up to grade 7. However, highly significant sex differences are noted for grade 11 students with males exceeding females on both measures. Results of the height and weight variables are shown in the General Report.

As can be seen from Table 3.1, B.C. students as a group fell far short of the expectations of the interpretation panels with respect to percent body fat and were rated *Weak* at all grade levels. For example, at the grade 3 level, only 12 percent of females and 15 percent of males recorded percent body fat values below the mid-point of the acceptable range. Similar results appear for the grade 7 and 11 students.

Comparison of B.C. students with other Canadian and international populations suggest that B.C. students are generally comparable to these groups with respect to percent body fat. It must be emphasized, however, that these measures from B.C. and elsewhere depict the actual values observed ("what is"), rather than what would be considered to be optimal body fat levels ("what ought to be"). For example, according to American Obesity Standards (Seltzer and Mayer, 1965), a further 4.6 percent of grade 11 females and 11.9 percent of grade 3 females are not only overweight, but are obese.

b) Physical Fitness: Cardio-vascular Endurance, Static Muscular Endurance, Dynamic Muscular Endurance, Static Strength, Explosive Strength, Flexibility

On the six measures used to determine levels of physical fitness, the overall assessment of the performance of students in grade 3, 7 and 11

can be summarized as *Weak*. The only exceptions are the grade 11 males who were rated as *Satisfactory* on all but flexibility where the 39 percent exceeding the mid-point of the acceptable range earned a rating of *Marginally Satisfactory*. Variables of particular concern are cardio-vascular endurance (timed run) and static muscular endurance (flexed arm hang) where *Weak* ratings were assigned to all groups except grade 11 males.

More specifically, it is noted that 9 of the 12 ratings assigned to the grade 3 students, with respect to physical fitness, were *Weak*. The remaining ratings were *Marginally Satisfactory*. It was particularly disturbing to note that only 6 percent of the girls and only 25 percent of the boys performed above the mid-point of the acceptable range on the 9-minute run used to assess cardio-vascular endurance at this grade level.

For the grade 7 students, fitness rating were generally low, with 8 of 12 measures being rated *Weak*, and the remaining 4 *Marginally Satisfactory*. Once again, cardio-vascular endurance gave serious cause for concern with only 5 percent of girls performing above the mid-point of the acceptable range. For the boys, flexibility was particularly noteworthy with only 12 percent exceeding the mid-point of the acceptable range of performance.

Grade 11 female ratings displayed the widest variability of all groups tested, with ratings of *Weak*, *Marginally Satisfactory* and *Satisfactory* being equally spread across the 6 variables. The males at this level were assigned *Satisfactory* ratings for 5 of the variables tested and *Marginally Satisfactory* for the sixth variable, flexibility.

In summary, evaluative ratings for the physical fitness variables denote *Weak* performance levels at both grades 3 and 7. *Marginally Satisfactory* to *Satisfactory* ratings were recorded for the grade 11 students. Sex differences generally favoured the males and these sex differences became larger with increases in grade level. The one exception to this trend is the flexibility variable, where the females were consistently rated higher than the males.

3. Summary of Results for Goal II: Motor Ability

The overall assessment of student performance on the measures of motor ability could be summarized as *Marginally Satisfactory* at grades 3 and 7 and *Satisfactory* at grade 11. Hand-eye co-ordination was judged to be at a *Satisfactory* level of performance for males across all three grade levels whereas grade 3 and grade 7 females, as a group, evidenced less than *Satisfactory* levels of performance on this measure.

Noteworthy at the grade 3 level are the high percentages of males performing above the mid-point of the acceptable range on the three measures of 'Throw for Form'. By contrast, very few of the females at this or the other grade levels demonstrated such performance on this measure of motor ability.

4. Summary of Results for Goal III: Knowledge and Understanding

The overall summary of the results of grade 3, 7 and 11 students on the paper and pencil measures of knowledge and understanding of concepts in physical education are presented in Table 3.2 with the ratings given by the interpretation panels.

TABLE 3.2

Mean Percent of Questions Correctly Answered by Females, Males and All Students and Interpretation Panel Ratings of Performance for Each Learning Outcome Assessed

	GRADE 3				GRADE 7				GRADE 11			
LEARNING OUTCOME	F	M	All	Panel Rating	F	M	All	Panel Rating	F	M	All	Panel Rating
1. Rules, Techniques and Strategies	66	66	66	*W*	58*	65	61	*MS*	56*	62	59	*S*
2. Movement Principles, Body Mechanics and Safety	64	68	66	*W*	53*	62	57	*MS*	59*	72	65	*S*
3. Physical Fitness, Nutrition and Physical Activity	65	68	66	*W*	66	66	66	*MS*	38*	46	42	*W*
4. Psychological Concepts	N/A				58	57	57	*MS*	71	68	69	*VS*
5. Physiological Concepts	73	76	74	*MS*	66*	73	70	*S*	52*	57	54	*MS*
6. Body Structure and Function	N/A				N/A				43*	47	45	*MS*

Panel Ratings: *W=Weak; MS=Marginally Satisfactory; S=Satisfactory; VS=Very Satisfactory; St=Strong*

N/A = Not assessed at this grade level.

*Differences between sexes significant ($p < .01$)

Grade 3

The rating given to the grade 3 performance in all areas was *Weak* with the exception of Physiological Factors which was judged to be indicative of *Marginally Satisfactory* performance.

Responses to questions dealing with selected concepts revealed weaknesses in the following specific areas:

1. object propulsion and force absorption (in relation to kicking and the forward roll)
2. basic concepts of safety (relative to falling)
3. preparation for physical activity (in terms of warm-up)
4. benefits of flexibility (related to stretching), muscles related to movement (muscles used to sit up) and aerobic activity (involving activities used to strengthen the heart)

For example, only 36 percent of the grade 3 students correctly answered the following question on the concept of safety. In the opinion of the interpretation panel, many more children should be able to identify the correct answer to the following question:

If you are running in the playground and you stumble, what is the safest way to fall?	grade 3 p-values		
	F	M	All
A. Put your arms out straight ahead of you	27	23	25
* B. Curl up and roll as you fall	32	40	36
C. Land on your hands and knees	36	35	35
D. I don't know	6	3	4

Very few differences were found in the performance of males and females among the grade 3 students, as seen in Table 3.2.

Grade 7

The overall performance of the grade 7 students was *Marginally Satisfactory*, with only the achievement on the items testing physiological concepts being judged as *Satisfactory*. For example, 89 percent of the grade 7 students correctly answered the following question on a physiological concept:

If you are playing softball, your blood flows fastest through your body when you:	grade 7 p-values		
	F	M	All
A. throw the ball	2	4	3
* B. run around the bases	88	89	89
C. swing the bat	5	4	4
D. catch the ball	1	1	1
E. I don't know	4	3	4

Responses to questions dealing with selected concepts revealed weaknesses in the following specific areas:

1. receiving of objects (in volleyball) and body equilibrium (related to the headstand)
2. understanding of the basic laws of physics (related to throwing into a wind), integration and summation of forces (as required for hitting for distance with a bat)
3. basic structure and function of the body (related to sweating), characteristics of isotonic exercise (during muscle contraction)
4. exercise methods (related to abdominal strength), understanding of the principle of specificity (in the maintenance of flexibility)
5. psychological factors that affect performance (in relation to stress reduction)

For example, very few grade 7 students knew the correct answer to the following question related to exercise methods necessary to achieve physical fitness:

The best way to do a sit-up to strengthen your stomach muscles is to keep:	grade 7 p-values		
	F	M	All
A. your legs straight and together	34	39	36
* B. your knees bent	54	44	49
C. your back arched	4	7	6
D. your legs straight and apart	3	4	4
E. I don't know	5	5	5

The grade 7 males performed significantly better than the females on three of the five Learning Outcomes tested. Both sexes performed equally well on the remaining two Learning Outcomes as can be seen from Table 3.2.

Grade 11

The performance of the grade 11 students was judged as *Very Satisfactory* on questions related to Psychological Concepts and *Satisfactory* in the areas of Rules, Techniques and Strategies as well as Movement Principles, Body Mechanics and Safety. For example, 74 percent knew the correct answer to the following question related to strategies:

If you are passing the ball to a team mate who is running forward, where should the ball be aimed?	grade 11 p-values		
	F	M	All
A. At the hands of the receiver	15	6	10
* B. Ahead of the receiver	65	83	74
C. At the eye level of the receiver	4	5	4
D. At the waist of the receiver	15	6	11
E. I don't know	1	1	1

Responses to questions dealing with selected concepts revealed weaknesses in the following specific areas:

1. understanding basic tactics and strategies (in relation to basic team game principles of defense)
2. understanding the laws of physics (as they apply to the effects of topspin)
3. effects of foreign substances on performance (tobacco), acute and chronic effects of training (breathing rates of trained and untrained people)
4. all aspects of fitness and nutrition (strength development methods, values of various food types)
5. body structure and function (circulatory system, muscle types)
6. techniques for effective and efficient improvement of game skills (appropriate motivational methods)

An example of a question which was found to be difficult for many students in the area of Body Structure and Function was:

What is the path followed by the blood in order to get oxygen to the body cells?	grade 11 p-values		
	F	M	All
A. Heart, lungs, arteries, capillaries	25	24	24
B. Capillaries, arteries, lungs, heart	9	4	7
* C. Lungs, heart, arteries, capillaries	21	37	29
D. Heart, lungs, capillaries, arteries	11	10	10
E. I don't know	35	25	30

Reference to Table 3.2 reveals that the grade 11 males performed significantly better than the females on five of the six Learning Outcomes. The difference on the final Learning Outcome (Psychological Factors) was not tested for significance as the responses were made on the basis of the "best" answer rather than on the basis of the "correct" answer.

Summary

The data presented in Table 3.3 suggests that improvement is needed at all grade levels. It will be noted that the grade 3 performance, as judged by the interpretation panels, was less than *Satisfactory* on 31 of the 32 items. At the grade 7 level, performance on 49 percent of the questions received ratings of less than *Satisfactory*. Similarly, 47 percent of the questions answered by the grade 11 students were judged to be indicative of performance at a less than *Satisfactory* level.

TABLE 3.3

Interpretation Panels' Judgements for Each Learning Outcome

LEARNING OUTCOME	Number of Items Assigned by the Panels to Each Rating Category														
	GRADE 3					GRADE 7					GRADE 11				
	W	*MS*	*S*	*VS*	*St*	*W*	*MS*	*S*	*VS*	*St*	*W*	*MS*	*S*	*VS*	*St*
1. Rules, Techniques and Strategies	4	3	1	0	0	2	0	6	0	0	1	2	4	1	0
2. Movement Principles, Body Mechanics and Safety	6	2	0	0	0	2	3	3	0	0	0	1	3	2	0
3. Physical Fitness, Nutrition and Physical Activity	8	0	0	0	0	1	3	2	2	0	6	1	2	0	0
4. Psychological Concepts	N/A					2	2	2	0	1	0	1	2	5	0
5. Physiological Concepts	3	5	0	0	0	0	4	1	2	1	2	3	2	1	0
6. Body Structure and Function	N/A					N/A					3	2	2	1	0
TOTAL ITEMS	21	10	1	0	0	7	12	14	4	2	12	10	15	10	0
PERCENT OF ALL ITEMS	66	21	3	0	0	18	31	36	10	5	26	21	32	21	0
	97%		3%			49%		51%			47%		53%		

Panel Ratings: *W=Weak; MS=Marginally Satisfactory; S=Satisfactory; VS=Very Satisfactory; St=Strong*

N/A = Not assessed at this grade level.

5. Summary of Results for Goal IV: Attitude

a) Attitude Toward Physical Education: Enjoyment

Students at all grade levels had very positive feelings with respect to their enjoyment of Physical Education. At grades 3 and 7, where students also rated other school subjects, Physical Education was rated much higher than all other subjects in terms of enjoyment. When asked to rate the enjoyment gained from specific Physical Education class activities, students tended to rate the outdoor recreation activities the highest (see Table 3.4). Some of the more traditional activities were rated very low, e.g., grade 3 males and females rated dance twelfth (last); grade 7 and 11 students also rated gymnastics very low in all cases.

TABLE 3.4

Five Highest Rated Physical Education Activities in Terms of Enjoyment

GRADE 3	GRADE 7	GRADE 11
1. Swimming	1. Camping & hiking	1. Camping & hiking
2. Camping & hiking	2. Team games	2. Kayaking & canoeing
3. Team games	3. Swimming	3. Snow & ice sports
4. Fitness activities	4. Snow & ice sports	4. Racquet sports
5. Learning to co-operate with others	5. Fitness activities	5. Team games

b) Attitude Toward Physical Education: Importance and Frequency

Sixty-eight percent of grade 11 students who were asked to rate the importance of Physical Education generally felt that it was equal in importance to other subjects. Of the remaining students 13 percent felt it was more important than most or all other subjects, and 19 percent thought it was less important than most or all other subjects. When asked how often they would like to have Physical Education the most common response for all grades was five time per week. Approximately 90 percent of the grade 7 and 11 students stated that they would like three or more classes per week, whereas only 73 percent of the grade 3 students preferred three or more Physical Education periods per week.

c) Attitude Toward Participation in Physical Activity

As can be seen from Table 3.5 students at all grade levels expressed very positive attitudes toward participation in physical activity. They value participation in physical activities primarily because of the social interaction associated with such activities, and for the healthful benefits resulting from them. Participating in physical activity for its ascetic qualities (long and hard training which requires the deferment of most other hobbies and pastimes) rated lowest - as one might expect of the general school population.

Two subdomains revealed differences between males and females with respect to their attitudes toward participation in physical activity. Males and females showed no differences at the grade 3 level in the Vertigo subdomain, but at the grade 11 level the males had much higher values than at grade 3 (4.0 compared to 3.5). Females were virtually the same in grade 3 and grade 11 (3.2 and 3.3 respectively). At all grade levels females expressed more positive attitudes toward the Aesthetic aspects of physical activity than did the males, the largest difference being at grade 11 where females scored 4.1 in comparison to the male mean value of 3.3.

TABLE 3.5

Mean Values for Attitudes Toward Participation in Physical Activity

Physical Activity Subdomain	Grade 3		Grade 7		Grade 11	
	F	M	F	M	F	M
Social - meet new people and be with friends	4.8*	4.7	4.5	4.4	4.6	4.4
Health & Fitness - make you healthier and get in better condition	4.9	4.8	4.7	4.5	4.5	4.4
Vertigo - thrills and risk	3.2	3.5	3.5	3.8	3.3	4.0
Aesthetic - beauty in movement	4.6	3.9	4.2	3.6	4.1	3.3
Catharsis - reducing stress and tension	N/A		4.3	4.2	4.3	4.1
Ascetic - long and hard training	N/A		3.7	3.8	3.2	3.4

*The maximum possible rating of 5.0 represents a very positive attitude. The minimum possible rating of 1.0 represents a very negative attitude.

B. INSTRUCTIONAL PRACTICES RESULTS

Questionnaires were mailed to 720 primary teachers, 960 intermediate teachers, 1229 secondary teachers and 1565 school administrators. The return rate for these four groups exceeded 30 percent.

The parents of students who participated in the assessment also received questionnaires. The return rate for parents exceeded 50 percent.

The returns from these questionnaires produced a large body of information which is presented in the General Report. The remainder of this chapter provides a summary of that information.

1. Teacher Background

The data in Table 3.6 shows that the majority of primary teachers are female, under 40 years of age, and with six or more years of teaching experience, whereas the majority of secondary teachers are male, under 40 years of age and with extensive university preparation in physical education.

TABLE 3.6

Characteristics of Physical Education Teachers: Sex, Qualifications and Years of Teaching Experience

	Percentage of Respondents		
	Primary	Intermediate	Secondary
Sex			
Male	9	64	59
Female	91	36	41
Age			
20-40 years	76	83	92
over 40 years	24	17	8
Teaching experience			
6 years or more	64	57	52
Number of university courses in physical education			
0 or 1	70	45	9
2 - 5	24	24	11
6 or more	6	32	81

The attitude of these teachers toward the teaching of physical education is very positive. Only nine percent of the teachers indicate the desire to teach less physical education, and 88 percent of primary and 91 percent of intermediate and secondary teachers are satisfied with their teaching assignment or wish to teach more physical education.

The percentage of teachers reporting formal academic training in physical education increased from primary through intermediate to secondary. However it should be noted that:

* 25 percent of primary teachers, 19 percent of intermediate teachers and six percent of secondary teachers had not taken a physical education university credit course.

* 47 percent and 32 percent of primary and intermediate teachers respectively said that "improvement in their own physical education qualifications" would improve their class instructional program *significantly*.

* 27 percent of the primary teachers indicated that they lacked sufficient qualifications in physical education.

The perception of a lack of adequate training to teach physical education may explain the fact that 50 percent of the primary teachers and 37 percent of the intermediate teachers indicated that "having a physical education specialist to act as a resource person in the school" would *significantly* improve the class instructional program. The option "having physical education taught only by specialist teachers" was chosen by 51 percent of the primary teachers and 45 percent of the intermediate teachers as a method of producing a *significant* improvement in the class instructional program.

2. Teacher Workload The returns indicate that the full-time elementary physical education teacher is a rarity. Only four percent of the respondents reported teaching full-time at the elementary level compared to 35 percent at the secondary level.

Although only 15 percent of intermediate teachers and 10 percent of the secondary teachers reported classes of more than 30 students, class size is considered to be a problem. Of the teachers sampled, 40 percent of the intermediate and 33 percent of the secondary respondents indicated that a reduction in class size would improve the class program *significantly* in physical education.

At the primary level, 34 percent of the teachers reported classes exceeding 25 students, and 26 percent chose reduction of class size as a *significant* factor in improving the class instructional program.

It is disturbing to note that 61 percent of the secondary teachers indicate that they plan to leave the physical education field within the next five years. One of the major reasons given was "too much time spent on extra-curricular involvement". Table 3.7 gives the extent of the extra-curricular involvement of teachers at the three grade levels surveyed.

TABLE 3.7

Teacher Extra-Curricular Involvement
(Percentage of Respondents)

	Primary			Intermediate			Secondary		
Hours per week	Intra-school	Inter-school	Club	Intra-school	Inter-school	Club	Intra-school	Inter-school	Club
No program	24	28	45	6	7	42	15	2	16
0	49	46	43	19	19	25	14	3	41
0-1	20	14	8	30	24	17	27	5	17
1-2	6	7	3	25	20	11	25	8	13
3-5	2	4	1	18	21	5	16	23	8
6-10	<1	2	<1	2	9	<1	3	35	31
10+	0	0	0	1	2	0	<1	24	1

The high degree of commitment to the extra-curricular program is clearly seen at the secondary level, with 59 percent indicating that they spent more than six hours a week on the inter-school activities alone.

3. Professional Development

At all three levels, teachers made a very strong request for "more effective in-service and professional development" and "more release time for in-service and professional development".

*96 percent of all teachers said that they would attend in-service sessions during school hours with release time.

*over 75 percent of all teachers would attend in-service offered immediately after school.

*the in-service topics most requested by teachers differ from one educational level to the next, e.g. primary teachers gave priority to "Physical Education activities for the classroom", intermediate teachers requested "Track and Field" and secondary teachers indicated a high priority for "Fitness and Active Health".

In-service offered by "the district" and "visits to other Physical Education classes" were considered the most useful type of in-service by elementary teachers. Secondary teachers cited "provincial in-service" as being the most useful.

4. Teaching Resources

Many elementary teachers were not familiar with the Physical Education resource textbooks which accompanied the elementary Curriculum Guide.

* the percent of primary teachers who were not familiar with each of the seven primary texts ranged from 33 percent to 60 percent.

* the percent of intermediate teachers who were not familiar with each of the seven intermediate texts ranged from 29 percent to 62 percent.

* 31 percent and 20 percent of primary and intermediate teachers respectively were not familiar with the 1971 Physical Education Resource Supplement.

* 90 percent and 92 percent of primary and intermediate teachers were familiar with the Elementary Guide.

* of the 85 percent of secondary teachers familiar with the 1961 Secondary Curriculum Guide, 80 percent rated it *of little or no value.*

5. Teaching Aids and Strategies

According to the teacher questionnaire results, student and teacher demonstrations were the most commonly used teaching strategies employed (approximately 50 percent of all teachers use them between 11-50 percent of the time).

Many of the teachers reported that they -

* never used discussion groups (40 percent or more)

* never had guest speakers (61 percent or more)

* never used problem solving approaches (47 percent)

* never used fitness testing equipment (50 percent or more)

* never used charts and posters (25 percent or more)

* never used a tape recorder/record player (29 percent or more)

6. Teaching Conditions

The teaching conditions teachers felt would improve their Physical Education class instructional program *Significantly* are:

Primary

* "having physical education taught only by specialist teachers" (51 percent)

* "having a physical education specialist to act as a resource person in the school" (50 percent)

* "more release time for inservice and professional development" (48 percent)

* "improvement in your own physical education qualifications" (47 percent)

* "more effective inservice and professional development" (46 percent)

* "increase in quantity of equipment" (41 percent)

Intermediate

* "having physical education taught only by specialist teachers" (45 percent)

* "reduction in class size" (40 percent)

* "increase in quantity of facilities" (40 percent)

* "increase in quantity of equipment" (39 percent)

* "increase in quality of facilities" (38 percent)

* "more release time for inservice and professional development" (38 percent)

* "more effective inservice and professional development" (37 percent)

* "having a physical education specialist to act as a resource person in the school" (37 percent)

Secondary

* "increase in quantity of facilities" (67 percent)

* "increase in quality of facilities" (57 percent)

* "increase in quantity of equipment" (50 percent)

* "increase in quantity of supplies" (44 percent)

* "increase in availability of community resources" (42 percent)

* "more release time for inservice and professional development" (41 percent)

C. Program Assessment Results

The data for this section was taken from the student, teacher and administrator questionnaires.

1. School Policies

Statements of program objectives were not as clearly established as might be expected. Approximately 30 percent of school administrators at each level were not aware of any district statement of physical education objectives, and at the elementary level 35 percent of administrators were not aware of any school statements of physical education objectives.

In schools where policies do exist, administrators indicated that teachers of physical education were generally involved "a lot" in the development of school policies and program content. However, in approximately 25 percent of schools, students were not involved, and in 45 percent of schools, parents were not involved.

2. Administration

a) Budget: From the questionnaires, the following points emerged:

* Teachers are not usually involved in the administration of the budget for the physical education class instructional program. In 60 percent of the elementary schools involved in the survey, the principal administers the physical education budget, and in 65 percent of the secondary schools, the department head for physical education is responsible.

* Equipment and supplies consume the greatest percentage of the physical education budget.

* Over 60 percent of schools at each level were involved in some form of "fund raising events" to provide additional sources of revenue.

b) Scheduling: The results from the questionnaires reveal that:

* Most physical education classes were scheduled on a "regular term (Sept-June)" basis.

* At the secondary level, 29 percent of teachers report a "one semester" program.

* The average elementary class for physical education was between 31 and 45 minutes long; at the secondary level the average class was 46 to 60 minutes in length.

* Teachers and students generally agreed that existing physical education classes are at "an appropriate length".

* Approximately 50 percent of the elementary students and 16 percent of the secondary students presently take physical education only two or less periods a week.

* Students, parents, teachers and administrators showed a preference for co-educational classes at the elementary level, and for "a mixture of co-educational and segregated classes" at the secondary level.

* Although few teachers report daily physical education classes at present, the majority of teachers showed a preference for classes on a daily basis. (See Table 3.8). Almost half of the students expressed a similar preference. Parents were not as positive to daily physical education although approximately 90 percent had indicated a need for physical education at <u>all</u> grades.

TABLE 3.8

Frequency of Physical Education Classes: Present Status and Preferred (Percentage of Respondents)

Classes per week	Present			Preferred								
				Teachers			Students			Parents		
	P	I	S*	P	I	S	P	I	S	P	I	S
One	6	1	<1	0	0	0	11	2	3	3	2	4
Two	47	48	11	11	6	<1	12	10	4	25	22	18
Three	19	29	43	21	25	14	17	27	23	41	42	36
Four	10	7	16	7	13	17	10	16	20	5	5	12
Daily	18	16	30	61	57	69	46	44	49	27	29	29

* P = Primary I = Intermediate S = Secondary

c) Safety: Medical examinations were not required of students prior to participation in physical education in 60 percent of the elementary schools and 45 percent of the secondary schools in the survey.

Over 80 percent of administrators at all levels felt that adequate first aid supplies were *immediately available*, but a first aid person (minimum St. John's Certificate) was not available in more than 30 percent of the elementary schools.

Only 67 percent of all teachers report checking physical education equipment for safety each lesson. Of the primary teachers reporting, 18 percent indicated that they did not check equipment for safety at all.

3. Facilities, Equipment and Supplies

Physical Education teachers at all three levels rated an increase in quantity and/or quality of facilities, equipment or supplies as one of the most important teaching conditions which would improve their physical education class program.

Existing school facilities, equipment and supplies were assessed in terms of their availability and adequacy for attaining physical education class instructional objectives. Some major findings were:

* Facilities such as the main gymnasium and playing fields are available in most schools and are generally rated *adequate*.

* Many schools do not have specialized facilities beyond the main gymnasium and playing fields. Such auxiliary and specialized teaching stations as activity rooms, tennis courts and additional gymnasia are not available in the majority of schools.

* At all levels, the "games area" was judged to have the most *adequate* equipment and supplies.

* Individual activities were not taught by a large percentage of teachers. Where taught, the equipment and supplies were rated as *inadequate* to meet class objectives.

4. Program Content

a) Activities taught: The data from the questionnaires indicate:

* Teachers at the intermediate and secondary levels allocate the greatest amount of time to "team games" (18 percent of intermediate teachers devote more than 40 percent of their class instructional time to traditional team games).

* A high percentage of teachers at all levels did not offer such basic activities as:

  -dance (not taught by 20 percent at primary, 40 percent at intermediate and 25 percent at secondary)

  -gymnastics (not taught by 71 percent at primary)

  -aquatics (not taught by 69 percent at primary, 62 percent at intermediate and 63 percent at secondary)

b) Goal Attainment: Teachers were asked to indicate the degree to which the existing physical education class programs "are assisting" students to attain the four Program Goals (see Chapter 2).

Parents and students were asked to indicate how the program "should help" students to attain these Goals.

The results of these two questions are shown in Table 3.9 below.

TABLE 3.9

Extent to which Physical Education Programs "should help or are assisting" Students to Attain Program Goals

Goal Area	"Should Help"						"Are Assisting"		
	Students			Parents			Teachers		
	Gr. 3	Gr. 7	Gr. 11	Gr. 3	Gr. 7	Gr. 11	P	I	S
I Physical Fitness	Not Asked	3.3	3.3	3.6	3.6	3.7	3.0	3.1	3.3
II Motor Ability		3.2	3.2	3.2	3.2	3.1	3.2	3.2	3.2
III Knowledge & Understanding		3.3	3.2	3.4	3.4	3.4	2.9	3.0	3.1
IV Attitude		3.3	3.3	3.7	3.7	3.6	3.5	3.3	3.3

1 = "not at all" 2 = "a little" 3 = "a fair amount" 4 = "a lot"

It is evident that the Attitude and Physical Fitness Goals were ranked as most important, but all four Goals were given high ratings. This suggests that those surveyed are expecting a physical education program which emphasizes a balance between all four Goal areas.

5. Evaluation

Evaluation in physical education is primarily subjective in nature with teachers being held responsible both for student and program evaluation. Other results indicate:

* approximately 50 percent of administrators consider factors such as student satisfaction, program content, teaching techniques, organization and planning, and achievement of objectives to be *of great importance* in evaluating their school physical education programs.

* program evaluation in physical education was *primarily* the responsibility of teachers with administrators being *somewhat involved.*

* student evaluation was primarily accomplished at all three levels through subjective judgements of "attitude and skills".

* fitness tests were the only standardized tests used to any extent to evaluate student progress in physical education.

* teacher-developed tests were *rarely* employed at the elementary level; secondary teachers *sometimes* developed knowledge, skill and fitness tests.

Grading practices at the elementary level generally included "written comments" in addition to some form of "rating scale", while at the secondary level the "written comments" supplemented "letter grades". "Parent/teacher conferences" were employed at all three levels. Other results show:

* over 70 percent of all teachers were *somewhat satisfied* with their present method of reporting student progress in physical education.

* over 70 percent of parents showed strongest support for "written comments" as a means of reporting student progress in physical education.

* teachers at the elementary level gave components of Goal II (Motor Ability) and Goal IV (Attitude) greatest weighting in determining grades. This priority was reversed at the secondary level, Attitude being ranked ahead of Motor Ability.

* parents and students at all levels consistently rated components of Goal IV (Attitude) as warranting the greatest weighting in determining grades.

* at all three levels, the highest rated specific factors for determining student grades were "effort in class", "improvement in skill level" and "attending class".

6. Extra-Curricular and Community Involvement

While the scope of this assessment was limited to the Physical Education class instructional program it is clear that the extra-curricular and community programs have a significant influence on the attainment of the specific Program Goals. Data obtained from teacher, administrator and student questionnaires indicated the following results:

* many students are involved to some extent in intra-mural and inter-school programs at all levels. This involvement reaches a high of 65 percent at grade 7.

* team games are the most popular form of extra-curricular physical activity.

* floor hockey, soccer, softball and track and field are the most popular intra-mural activities at all levels, with volleyball and soccer also being very popular in the intermediate and secondary grades.

* basketball, volleyball, soccer and track field are the most popular inter-school activities.

* the high percentage of teachers reporting extensive involvement in extra-curricular activities is shown in Table 3.7.

* in the community students at all levels indicated that swimming, soccer and baseball were the most popular sports.

* in community organized activities, team sports were most popular at the elementary level, with individual activities being more popular at the secondary level.

Chapter Four

RECOMMENDATIONS

The Physical Education Assessment was primarily concerned with providing information on the current status of students and program in Physical Education at the end of primary (grade 3), intermediate (grade 7), and secondary (grade 11) school levels. This was accomplished by the Contract Team through consideration of the results of the student fitness, motor ability and knowledge measures, attitude inventories and student, parent, teacher and administrator questionnaires.

The results of this assessment provide the evidence for five major recommendations and twenty specific recommendations which are presented according to the three major components namely: A) student assessment, B) instructional practices, C) program assessment.

The General Report includes supporting statements for each of the twenty-five recommendations.

MAJOR RECOMMENDATIONS

We recommend:

I *That the Ministry of Education, local School Boards, administrators, and teachers of Physical Education ensure that Physical Education programs provide an increased emphasis on student learning outcomes in the areas of physical fitness, motor ability, and knowledge and understanding of Physical Education. Particular emphasis should be be placed on body fat reduction, cardio-vascular endurance, development of fundamental motor skills, and knowledge basic to Physical Education.*

II *That the Ministry of Education and Physical Education teacher preparation institutions assess existing teacher qualifications and teacher training programs with a view to developing appropriate standards to meet the requirements of the expanded body of knowledge in Physical Education, the safety considerations, and the diversified role of the teacher of Physical Education.*

III That the Ministry of Education and local School Boards provide the resources (personnel, in-service programs, facilities, equipment and supplies) necessary to ensure that Physical Education programs are broadened to meet the specifications of the Provincial Curriculum Guides.

IV That the Ministry of Education strongly endorse the concept of daily Physical Education with a view to improving student fitness, motor ability, and knowledge and understanding of Physical Education. Further that the Ministry of Education strike a committee to make recommendations regarding the implementation of daily Physical Education.

V That the Ministry of Education appoint a Provincial Co-ordinator of Physical Education to facilitate the broadening of the Physical Education curriculum, the upgrading of teacher qualifications, and the implementation of daily Physical Education.

SPECIFIC RECOMMENDATIONS

A. Student Assessment

We recommend:

1. That the Ministry of Education collaborate with the Ministry of Health to study and make recommendations concerning means of reducing the number of overweight and obese students at the primary, intermediate and secondary levels. Further, as an interim measure, that the Ministry of Education recommend to school districts that immediate action be taken to provide programs to assist in decreasing the high percentage of body fat in students at all levels.

2. That the directors of Physical Education teacher preparation programs in British Columbia study the results of this assessment with a view to providing increased emphasis on: a) physical fitness development, and the role of exercise and nutrition in relation to body composition, and b) basic sequential development of motor skills in young children.

3. That district administrators, principals and teachers of primary and intermediate Physical Education provide increased opportunities for students in: a) development of physical fitness with an emphasis on cardio-vascular endurance, b) sequential development of manipulative motor skills such as throwing, catching, kicking and striking.

4. That the Ministry of Education pursue ways of implementing teacher in-service training related to: a) physical fitness development, and b) sequential motor development.

5. That Physical Education researchers undertake studies to investigate the applicability of "uni-sex" performance standards at the primary and intermediate levels.

6. That the Curriculum Development Branch of the Ministry of Education ensure that the knowledge base of the primary, intermediate and secondary Physical Education programs be extended to provide for full coverage of the body of knowledge necessary to master the learning outcomes specified in Goal III of this assessment.

7. That teachers of Physical Education at the intermediate and secondary levels direct special attention to developing the knowledge base of female students in view of the observed differences in cognitive results between males and females.

8 That teachers of Physical Education and administrators continue to foster and encourage the development of positive student attitudes toward both Physical Education in the schools and participation in physical activity in general.

9. That those concerned with the development and implementation of curricula in Physical Education be made aware of differing values presently held by males and females toward certain aspects of physical activity and consider these differences when formulating new programs.

B. Instructional Practices

We recommend:

10. That the Ministry of Education specify minimal qualifications for teachers of Physical Education at the primary, intermediate and secondary levels, with a view to ensuring that Physical Education is taught by specialists who teach and act as program co-ordinators and resource personnel.

11. That local School Boards investigate the sizes of Physical Education classes and reduce large classes to ensure the safety of students and to improve teaching and learning conditions.

12. That local School Boards and school administrators assess the teaching conditions and workload of teachers of Physical Education with particular consideration given to the adequacy of physical facilities, equipment and supplies, appropriateness of time-table and time allotment, program balance, and extra-curricular responsibilities.

13. That the Ministry of Education review existing resource materials for Physical Education to determine those most beneficial for each educational level. Further that, where this has not already been done, local School Boards establish curriculum resource centres to ensure that the classroom teacher has easy access to the resource materials.

C. Program Assessment

We recommend:

14. That the Ministry of Education develop guidelines for safety standards for the Physical Education program.

15. That all school districts and schools possess written policy statements of objectives for Physical Education programs, and that teachers, parents and students be given the opportunity to be involved in the development of these statements.

16. That local School Boards ensure that the time allotments for Physical Education classes at all levels meet the suggested specifications indicated in the Provincial Curriculum Guides (Primary - 30 minutes a day; Intermediate - 40 minutes a day; Secondary - daily).

17. That local School Boards ensure that all activity areas listed in the provincial Curriculum Guides receive the time allotments specified. Particular attention should be given to the time devoted to dance, gymnastics and aquatics.

18. That the Ministry of Education investigate existing evaluation practices in Physical Education with a view to making recommendations concerning evaluation criteria, test instrumentation and grading practices in this subject area.

19. That Physical Education researchers undertake studies to investigate the effects of school timetables and co-educational classes on the Physical Education programs in British Columbia.

20. That the Ministry of Education conduct an extensive assessment of all aspects of the school extra-curricular program to determine its relationship to the curricular program, its effect on teacher workload, and its contribution to meeting student needs.

APPENDIX A

SCHOOLS OF PILOT TESTING

The authors of this report are very grateful to the administrators, staff and students of the following schools who participated in piloting the student tests in February and March 1979 at the grade levels noted below.

Grade Three

Admiral Seymour Elementary, Vancouver School District
Carnarvon Community, Vancouver School District
Colebrook Elementary, Surrey School District
Henry Hudson Elementary, Vancouver School District
Kerrisdale Elementary, Vancouver School District
Maple Grove Elementary, Vancouver School District
Prince Charles Elementary, Surrey School District
Queen Elizabeth Elementary, Vancouver School District
Queen Mary Elementary, Vancouver School District
Walter Lee Elementary, Richmond School District

Grade Seven

Admiral Seymour Elementary, Vancouver School District
David Lloyd George Elementary, Vancouver School District
Donald E. McKay Elementary, Richmond School District
General Gordon Elementary, Vancouver School District
Lord Kitchener Elementary, Vancouver School District
Prince Charles Elementary, Surrey School District
Quilchena Elementary, Vancouver School District
Southlands Elementary, Vancouver School District
Trafalgar Elementary, Vancouver School District

Grade Eleven

Frank Hurt Secondary, Surrey School District
King George Secondary, Vancouver School District
Kitsilano Secondary, Vancouver School District
Lord Byng Secondary, Vancouver School District
Point Grey Secondary, Vancouver School District
Richmond Secondary, Richmond School District
Sir Charles Tupper Secondary, Vancouver School District
Sir Winston Churchill Secondary, Vancouver School District
Vancouver Technical Secondary, Vancouver School District

APPENDIX B

PHYSICAL EDUCATION REVIEW PANELS

Review Panels made up of educators and members of the lay public from throughout British Columbia, met in Richmond in December 1978 to examine and amend the proposed objectives and the sample test items for the Physical Education Assessment prior to the development stage of the student tests at three grade levels.

Grade Three

Barbara Baker, Teacher
Surrey School District

Donna Beaumont, Teacher
Burnaby School District

Jody Butler, Teacher
Nanaimo School District

Gwen Chute, Trustee
Coquitlam School District

Neil Dockendorf
Parks & Recreation Department
Burnaby

Ishbel Elliot, Trustee
Richmond School District

George Lenz, Teacher
Delta School District

Bill McIntosh, Teacher
West Vancouver School District

Ian McLean, Admin. Assistant
Greater Victoria School District

Les Peake, Trustee
Lake Cowichan School District

Jill Philipchuk, Teacher
Vancouver School District

Hannah Polowy, Faculty of Education
University of British Columbia

Margaret Savage, Kinesiology Department
Simon Fraser University

Ruth Anne Smith, Parent
Vancouver

Dave Turkington, Admin/Supervisor
Greater Victoria School District

Grade Seven

Fraser Ballantyne, Teacher
Vancouver School District

Norm Barton, P.E. Supervisor
Surrey School District

Jim Berry, Teacher
Richmond School District

Silke Bigg, Parent
Nanaimo

Jacquie Boyer, Trustee
Coquitlam School District

Bruce Jansen, Assistant Coordinator
Prince George School District

Phil Marshall, Teacher
North Vancouver School District

Barry Morley, Teacher
Surrey School District

Winnifred Mudge, Trustee
Coquitlam School District

Eunice Parker, Trustee
Burnaby School District

Grade seven (cont'd)

Ray Comeau, Teacher
Coquitlam School District

Glen Dixon, Faculty of Education
University of British Columbia

Ed Fougner, Camosun College
Victoria

Alastair Fraser, Parent
Burnaby

Anita Hagen, Trustee
New Westminster School District

Patricia Parker, Teacher
Burnaby School District

Jack F. Rowe, Parent
Victoria

Ed Silva-White, P.E. Supervisor
Burnaby School District

Ray Stevenson, St. George's School
for Boys
Vancouver

John Wilkinson, Kinesiology Department
Simon Fraser University

Grade Eleven

Ron Aubrey, Director
Esquimalt Recreation Centre

Eric Banister
Kinesiology Department
Simon Fraser University

Verna Chernoff, Teacher
Castlegar School District

Janet Clark, Trustee
Richmond School District

Terry Cotton, Teacher
Coquitlam School District

Glenn DiGeorgio, P.E. Coordinator
Nanaimo School District

Wendy Fidgeon, Trustee
Surrey School District

Jane Ford, Parent
West Vancouver

Bob Gair, Teacher
New Westminster School District

Connie Hansen, Parent
Richmond

Tom Hatcher, Teacher
Sooke School District

Doug Jennings, Assistant Superintendent
North Vancouver School District

H. W. Johnston, Canadian Manufacturers
Association, Vancouver

Jack Lowther, Principal
Greater Victoria School District

Mary Lee MacDonald, Teacher
Delta School District

Bob McKay, P.E. Consultant
Vancouver School District

Eleanor Molnar, Teacher
Coquitlam School District

John Nelson, Teacher
Abbotsford School District

Barry O'Hara, Sporting Goods
Manager, Burnaby

Gordon Squire
Parks & Recreation Department
Burnaby

Sophie Weremchuk, Trustee
Mission School District

Ernst Wilmik, Department of
Leisure Services, Richmond

APPENDIX C

INTERPRETATION PANELS

Each of these panels contributed to the interpretation of test results at one of the assessment levels by rating the pupil performance on each item.

Preliminary Interpretation Panel

Martin Collis,
Department of Physical Education
University of Victoria

Glenn Kirchner,
Faculty of Education
Simon Fraser University

Shirley Nalevykin,
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University of British Columbia

Bill O'Neill, Teacher
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Burnaby School District

Gary Sinclair,
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University of British Columbia

Eileen Warrell, Faculty of Education
Simon Fraser University

Grade Three

Barbara Baker, Teacher
Surrey School District

Brenda Balahura, P.E. Assistant
Prince Rupert School District

Les Burgener, Teacher
Nechako School District

Greg Caulfield, Teacher
Vernon School District

Beth Chobotuck, Parent
Burnaby

Joan Currie, Teacher
Cariboo-Chilcotin School District

Ishbel Elliott, Trustee
Richmond School District

Alan Fischer, P.E. Coordinator
Abbotsford School District

Pamela Glass, Parent
Vancouver

Bill McIntosh, Teacher
West Vancouver School District

Don Martyn, Teacher
Coquitlam School District

Judee Sharp, Teacher
New Westminster School District

Marjorie Stewart, Trustee
Nanaimo School District

Arlene Taylor, Teacher
North Vancouver School District

Grade Seven

Norm Barton, P.E. Supervisor
Surrey School District

Dave Brownlee, P.E. Coordinator
Langley School District

Linda Buxton, Teacher
Carnbrook School District

Peter Evans, District Assistant
(Curriculum - P.E.)
Peace River South School District

Alastair Fraser, Parent
Vancouver

Fran Heath, Teacher
North Vancouver School District

Peggy Higgins, Teacher
Burnaby School District

Bruce Jansen, Assistant Coordinator
Prince George School District

George Longstaff, P.E. Supervisor
Coquitlam School District

Colin McNeill, Trustee
Arrow Lakes School District

Barry Morley, Teacher
Surrey School District

Winnifred Mudge, Trustee
Coquitlam School District

Kathy Newman, Trustee
West Vancouver School District

Jean Thompson, Nutritionist
Ministry of Health, Nanaimo

Evelyn Tull, Teacher
Vernon School District

Grade Eleven

Al Barry, P.E. Coordinator
Central Okanagan School District

Verna Chernoff, Teacher
Castlegar School District

Terri Cotton, Teacher
Coquitlam School District

Gerry Heaney, Teacher
Burnaby School District

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Coquitlam School District

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Paula Passmore, Teacher
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Wendy Robertson, Coordinator
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Edith Rose, Trustee
Cranbrook School District

Don Steen, B.C. Federation of
School Athletic Associations
Vancouver

Bob Taylor, P.E. Supervisor
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Hugh Venables, Action B.C.
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Patty Vogel, Unit Medical Officer
Vancouver Health Department